

WHAT IS CLAIMED IS:

1. An optical module comprising:
 - an optical semiconductor element sealed with a cap having an upper surface formed with a window;
 - 5 at least one optical part confronted with the window;
 - a housing holding the optical part therein, and having an opened end face; and
 - a connecting layer directly connecting the upper surface of the cap to the opened end face of the housing.
- 10 2. The optical module according to claim 1, wherein an outer dimension of the opened end face of the housing is equal to or smaller than an outer dimension of the upper surface of the cap.
- 15 3. The optical module according to claim 1, wherein the optical semiconductor element has a stem portion opposite from the upper surface of the cap, and an outer dimension of the opened end face of the housing is equal to or smaller than an outer dimension of the stem portion.
- 20 4. The optical module according to claim 1, wherein the optical semiconductor element has a stem portion opposite from the upper surface of the cap, and the stem portion is distanced from the opened end face of the housing.
- 25 5. The optical module according to claim 1, wherein the connecting layer is formed by an adhesive curable by irradiation of ultraviolet rays.

6. The optical module according to claim 1, wherein the housing has a receptacle part adapted to receive a mating optical plug.

7. The optical module according to claim 1, further
5 comprising:

a casing, which at least partly covers the cap and the housing;
and which extends across the connecting layer.

8. The optical module according to claim 7, further
comprising:

10 a sealing layer filled in a clearance between the casing,
and the connecting layer, the sealing layer being formed by resin
curable thermally.

9. An optical module in which an optical semiconductor
element of the cap sealing type is mounted on a housing to be
15 aligned with an optical axis of at least one optical part contained
in the housing, wherein:

an upper surface of a cap of said optical semiconductor
element is bonded to an end face of said housing.

10. An optical module in which an optical semiconductor
20 element of the cap sealing type is mounted on a housing to be
aligned with an optical axis of a lens contained in the housing
adapted to fittingly receive and hold a ferule of an optical
plug of an mating connecting member, wherein:

25 an upper surface of a cap of said optical semiconductor
element is bonded to an end face of said housing.

11. The optical module according to claim 9 or 10, wherein a side surface of said cap of said optical semiconductor element and a side surface of said housing is at least partly covered with a casing, and a clearance therebetween is sealed with resin.

5 12. The optical module according to claim 11, wherein the upper surface of said cap of said optical semiconductor element and the end face of said housing are bonded by ultraviolet curing adhesive, and the clearance between the inner surface of said casing, and each of the side surface of said cap of said optical 10 semiconductor element and the side surface of said housing is sealed with thermosetting resin.

13. An optical module unit wherein a plurality of the optical modules constructed according to claim 9 or 10 are arrayed in juxtaposition, and covered with a single common casing, and a 15 clearance therebetween is sealed with resin.